

Amendment and Response to Office Action
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AMENDMENTS TO CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of attenuating a ~~pathoangiogenic condition~~ pathological angiogenesis associated with cancer in a mammal consisting of: administering to said mammal an amount of one or more Group B β -hemolytic *Streptococci* ("GBS") toxin receptors having an amino acid sequence substantially identical to HP59 or SP55, or immunogenic fragments thereof, wherein the amount is effective to induce or maintain an immune response to at least one of the Group B β -hemolytic *Streptococci* toxin receptors;
- ~~whereby the development of said pathoangiogenic condition in the mammal is attenuated;~~
- ~~wherein the pathoangiogenic condition comprises cancer;~~
- ~~and wherein the Group B β -hemolytic *Streptococci* toxin receptor comprises HP59 or SP55.~~

Claims 2-3. (Canceled)

4. (Previously Presented) The method of claim 1, wherein at least one of the Group B β -hemolytic *Streptococci* toxin receptors has substantial identity to SEQ ID NO: 2.
5. (Previously Presented) The method of Claim 4, wherein at least one of the Group B β -hemolytic *Streptococci* toxin receptors is identical to SEQ ID NO: 2, or is SEQ ID NO: 2 with at least one conservative amino acid substitution.
6. (Previously Presented) The method of claim 1, wherein at least one immunogenic fragment has substantial identity to a portion of SEQ ID NO: 2.

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7. (Previously Presented) The method of claim 6, wherein at least one immunogenic fragment has substantial identity to a peptide consisting of amino acid residues 8-28 of SEQ ID NO:2.
8. (Previously Presented) The method of claim 1, wherein at least one of the Group B β -hemolytic *Streptococci* toxin receptors has substantial identity to SEQ ID NO: 4.
9. (Previously Presented) The method of claim 8, wherein at least one other Group B β -hemolytic *Streptococci* toxin receptors has substantial identity to SEQ ID NO: 2.
10. (Previously Presented) The method of claim 8, wherein at least one other Group B β -hemolytic *Streptococci* toxin receptor is identical to SEQ ID NO: 4, or is SEQ ID NO: 4 with at least one conservative amino acid substitution.
11. (Previously Presented) The method of claim 1, wherein at least one immunogenic fragment has substantial identity to SEQ ID NO: 4.
12. (Previously Presented) The method of claim 11, wherein the at least one immunogenic fragment has substantial identity to a portion of SEQ ID NO: 4.
13. (Original) The method of claim 11, wherein at least one immunogenic fragment has substantial identity to a portion of SEQ ID NO: 2.
14. (Previously Presented) The method of claim 12, wherein at least one immunogenic fragment has substantial identity to a peptide consisting of amino acid residues 9-35 of SEQ ID NO: 4, a peptide consisting of amino acid residues 8-22 of SEQ ID NO: 4, or a peptide consisting of amino acid residues 71-84 of SEQ ID NO: 4.
15. (Previously Presented) The method of claim 1, wherein the normal tissue of the mammal does not contain the Group B β -hemolytic *Streptococci* toxin receptor.

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16. (Previously Presented) The method of claim 1, wherein the administering is via a method selected from the group consisting of oral ingestion, nasal inhalation, subcutaneous injection, intravenous injection, intramuscular injection, intraperitoneal injection and rectal injection.

17-28. (Canceled)

29. (Currently amended) A composition comprising one or more Group B β -hemolytic *Streptococci* toxin receptors having an amino acid sequence substantially identical to HP59 or SP55, or immunogenic fragments thereof, ~~wherein the GBS toxin receptor comprises HP59 and SP55.~~

30. (Currently Amended) The composition of claim 29, wherein one or more Group B β -hemolytic *Streptococci* toxin receptors with an amino acid sequence substantially identical to HP59 or SP55, or immunogenic fragments thereof, are in an amount effective for attenuating pathological angiogenesis associated with cancer ~~a pathoangiogenic condition~~ in a mammal, ~~wherein the pathoangiogenic condition comprises cancer.~~

31. (Previously Presented) The composition of Claim 30 further comprising a pharmaceutically acceptable excipient.

32. (Currently Amended) The composition of claim 30, wherein at least one of the Group B β -hemolytic *Streptococci* toxin receptors having an amino acid sequence substantially identical to HP59 or SP55, or immunogenic fragments thereof, is ~~are~~ isolated.

33. (Original) The composition of claim 30, further comprising an adjuvant.

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34. (Original) The composition of claim 33, wherein said adjuvant is selected from the group consisting of: a water in oil composition, Freund's adjuvant, QS21, IL-12 and interferon gamma.
35. (Currently Amended) The composition of claim 32, wherein the at least one of the isolated Group B β -hemolytic *Streptococci* toxin receptors with an amino acid sequence substantially identical to HP59 or SP55, or immunogenic fragments thereof, is are conjugated or linked to a protein carrier.
36. (Original) The composition of claim 35, wherein the protein carrier is a molecule selected from the group consisting of keyhole limpet hemocyanin (KLH), bovine serum albumin (BSA), ovalbumin, human serum albumin, human gamma globulin, chicken immunoglobulin G, bovine gamma globulin and tetanus toxoid.
37. (Previously Presented) The composition of claim 30, wherein at least one of the Group B β -hemolytic *Streptococci* toxin receptors or fragments thereof is glycosylated.
38. (Previously Presented) The composition of claim 30, wherein at least one of the Group B β -hemolytic *Streptococci* toxin receptors or fragments thereof is recombinant or synthetic.
39. (Canceled).
40. (Currently Amended) The composition of claim 30, wherein at least one ~~ether~~ of the Group B β -hemolytic *Streptococci* toxin receptor has substantial identity to SEQ ID NO: 2.

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41. (Currently Amended) The composition of claim 40, wherein the at least one of the Group B β -hemolytic *Streptococci* toxin receptor is identical to SEQ ID NO: 2, or is SEQ ID NO: 2 with at least one conservative amino acid substitution.
42. (Currently Amended) The composition of claim 40, wherein the at least one other Group B β -hemolytic *Streptococci* toxin receptor has substantial identity to SEQ ID NO: 4.
43. (Original) The composition of claim 30, wherein at least one immunogenic fragment has substantial identity to a portion of SEQ ID NO: 2.
44. (Currently Amended) The composition of claim 30, wherein the at least one immunogenic fragment has substantial identity to a peptide consisting of amino acid residues 49-63 of SEQ ID NO: 2, a peptide consisting of amino acid residues 112-125 of SEQ ID NO: 2, a peptide consisting of amino acid residues 8-28 of SEQ ID NO: 2, or a peptide consisting of amino acid residues 49-76 of SEQ ID NO: 2.
45. (Currently Amended) The composition of claim 30, wherein at least one of the Group B β -hemolytic *Streptococci* toxin ~~receptor~~ receptors has substantial identity to SEQ ID NO: 4.
46. (Currently Amended) The composition of claim 45, wherein the at least one other Group B β -hemolytic *Streptococci* toxin receptor is identical to SEQ ID NO: 4, or is SEQ ID NO: 4 with at least one conservative amino acid substitution.
47. (Currently Amended) The composition of claim 30, wherein the at least one immunogenic fragment has substantial identity to a portion of SEQ ID NO: 4.

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48. (Currently Amended) The composition of claim 47, wherein the at least one immunogenic fragment has substantial identity to a peptide consisting of amino acid residues 9-35 of SEQ ID NO: 4, a peptide consisting of amino acid residues 8-22 of SEQ ID NO: 4, or a peptide consisting of amino acid residues 71-84 of SEQ ID NO: 4.

Claims 49-54. (Cancelled)

55. (Currently Amended) A method of producing a composition for attenuation of pathological angiogenesis associated with cancer ~~pathoangiogenic conditions~~ comprising:

providing at least one Group B β -hemolytic *Streptococci* toxin receptor having an amino acid sequence substantially identical to HP59 or SP55, or immunogenic fragment thereof, and

formulating the receptor or fragment in a pharmaceutically acceptable excipient;

~~whereby said composition is produced~~

~~wherein the pathoangiogenic condition comprises cancer, and~~

~~wherein the Group B β -hemolytic *Streptococci* toxin receptor or immunogenic fragment thereof comprises HP59 or SP55.~~

56. (Original) The method of claim 55 further comprising providing an adjuvant.

57-58. (Canceled)